A STUDY OF ATTITUDE OF SCHOOL STUDENTS TOWARDS PHYSICAL EDUCATION IN RELATION TO MOTOR FITNESS, ACADEMIC ANXIETY AND ACADEMIC ACHIEVEMENT

ABSTRACT

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

Physical Education

BY

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ABSTRACT

The Britishers advocated the significance of physical education for the healthy development of students and YMCA was established in Madras to prepare trained teachers for educational institutions. New educational policy give more impetus to physical education by adding scientific dimension to it. General awareness towards physical education has created interest among people towards the subject. On the basis of review of literature the present problem "A STUDY OF ATTITUDE OF SCHOOL STUDENTS TOWARDS PHYSICAL EDUCATION IN RELATION TO MOTOR FITNESS, ACADEMIC ANXIETY AND ACADEMIC ACHIVEMENT." Was evolved. Key terms and selected variables, along with significance of the study have been highlighted in chapter 'Introduction'.

The second chapter deals with method and procedure of the investigation. Research design, sampling procedure, selection of tools used, their administration and scoring have been explained. Product moment coefficient of correlation between attitude towards physical education and motor fitness, academic anxiety, academic achievement of boys and girls, opted and not opted physical education were computed. Significant differences between the mean scores of attitude towards physical education of boys and girls of Government and Private school students, opted and not opted physical education were calculated to draw inferences.

Results obtained have been discussed in the third chapter. The major findings are as follows:

1. Boys showed significant positive relationship of attitude towards physical education with scores of 600-yd run/walk, shuttle run, and

standing broad jump, of motor fitness variables and also with academic anxiety and academic achievement.

2. The attitude of girls towards physical education was found having significant positive relationship with 600-yd run/walk, 50-yd dash, shuttle run and standing broad jump of motor fitness variables and also with academic anxiety and academic achievement.

3. The boys who opted physical education as an elective subject did not show any significant relationship of their attitude towards physical education with any of the motor fitness variables, academic anxiety or academic achievement.

4. The boys who had not opted physical education as an elective subject did not show significant relationship between their attitudes towards physical education with any of the other variables except academic achievement.

5. The attitude towards physical education of girls who opted physical education as an elective subject was found significantly correlated with 600-yd run/walk, 50-yd dash and academic achievement.

6. The attitude towards physical education of girls who did not opt physical education as an elective subject found significantly correlated with 600-yd run/walk, shuttle run, over all motor fitness and academic achievement.

7. The mean difference of attitude scores towards physical education between boys and girls was found to be insignificant.

8. The attitude towards physical education of boys who opted physical education was found significantly better than the boys who did not opt physical education as a subject.

9. The attitude towards physical education of girls who opted physical education was found significantly better than their counterparts who did not opt physical education as subject.

10. No significant difference was observed in the attitude of boys towards physical education between the students studying in government and private schools.

11. The attitude towards physical education of girls studying in government schools was found significantly better than the girl students studying in private schools.

Suggestions for further research were made which are as follows:

1. In the interest of sports private managed schools should do some efforts to develop attitude of girl's students towards physical education.

2. The private schools who did not introduce physical education as an elective subject should also introduce physical education in their school so that attitude of students is developed towards physical education.

3. Such studies should be conducted for the university and college students. The present investigation has certain limitations. Since it is not possible by a single researcher to take in to account all the variables in one/single study therefore it is suggested that the study

considering the same variables should be conducted on college and university students.

4. It is also suggested that similar study may be conducted in other state of the country.

5. We have confined our study to motor fitness variables, academic anxiety and academic achievement. It is suggested that socio-economic factors should also be incorporated in future studies. Parental attitude towards participation in games and sports and social support may also be included in such studies.

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DEPARTMENT OF
PHYSICAL HEALTH & SPORTS EDUCATION
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CHAIRMAN

Date: July 20, 2001

CERTIFICATE

This is to certify that the thesis entitled, "A STUDY OF ATTITUDE OF SCHOOL STUDENTS TOWARDS PHYSICAL EDUCATION IN RELATION TO MOTOR FITNESS, ACADEMIC ANXIETY AND ACADEMIC ACHIEVEMENT" is based on the research work independently carried out by Mr. Zamirullah Khan, Lecturer, Department of Physical Health & Sports Education. The thesis is an original contribution made by him and add substantially to the existing knowledge in the area of Physical Education. The thesis is quite fit for submission to the examiners for evaluation.

(Dr. Jawaid Ali Khan)

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(Zamirullah Khan)

CONTENTS

Chapter I

CHAPTER I

INTRODUCTION

Games and sports, in one form or the other, have been of tremendous interest to people throughout the world. In our own country various types of games provided an opportunity to sports persons to display their talent and skills and for common man it was a source of entertainment. In order to acquire skill various exercises and strategies were evolved but no systematic and scientific methods were developed to improve the aspects mentioned above. It was visualised that if mental and physical training has to be imparted it should start from early stages of life. Thus, it emerged that sports activity should be combined with education. Our point of view is vindicated when we come across old Persian literature of games and sports where it was claimed that young boys were trained in such activities as running, jumping, riding, javelin throwing, etc. Similarly Egyptians, Babylonians and Jewish Community patronised extensive physical education programmes (Kamlesh and Sangral, 1988).

The objective of education calls for the whole some personality development of a child, which includes development of physical and mental faculties in addition to social and emotional uplift of the child. Since human being is a combination of body, mind and spirit, he cannot be compartmentalised into body and mind separately. Therefore combining the word physical with education brings out a clear sense that the discipline is capable of developing harmonious personality of a child which includes physical, mental, social, emotional and spiritual

development. Bucher and Wuest (1987) have elaborated the objectives of physical education. They are (a) physical development (b) Neuro-muscular development (c) Cognitive development and (d) Social-emotional-affective development.

Let us examine the development of physical education in India. Kamlesh and Sangral (1988) have reported that in 1882 the British Govt. appointed a commission that recommended that physical training should be given to natives in games like gymnastics, drills and other exercises. Ex-servicemen imparted military drill and physical training exercises in schools. Mr. H.C. Buck in Madras founded YMCA College of physical education in 1920. In 1931 Govt. College of physical education in Hyderabad was established. Lucknow Christian College of physical education was started in 1932. After independence Govt. of India appointed a Central Advisory Board of Physical Education & Recreation. M.K. Kaul & M.N. Kapoor submitted a report to all India council of sports and made some useful recommendations in 1961.The salient features were as follows:

1. Physical education should be considered as part of general education of schools and colleges.

2. Educational institution should establish the department of physical education.

The new education policy (proposed in 1986) has highlighted the importance of physical education. Recommendations were made that physical education be introduced as a compulsory subject in all schools and colleges of the country. A number of States, accepting these recommendations introduced physical education in their school curriculum. Central schools, Navodaya Vidyalayas and schools affiliated

to CBSE, New Delhi took a lead in this regard and introduced physical education as an academic subject. The UGC gave liberal grant to universities to start the department of physical education. They also recommended that three-year degree course should be started and an expert committee recommended the subjects to be covered under physical education. Elaborate syllabi were framed and forwarded to universities as requisites for theory and practical to be incorporated in the three years degree course (UGC letter dated April 24,1985-appendix A).

Starting of the three years degree course led to the institution of master courses in the department of physical education. Ph.D. programme was a natural outcome of the development of physical education programme. It has now been reported that the people who lead sedentary life suffer from various ailments such as cardiac, over-weight problems and breathing disorders, etc. Therefore people have started developing a positive attitude towards exercise and physical activities. New fitness clubs and multigyms are coming up in a big way to meet the demands of the people. The positive attitude towards physical education has also been witnessed among the students.

With the introduction of physical education as an academic discipline a considerable change towards physical education activities has been noticed among the students. These changes have motivated the researcher to take up a study of attitude of school students towards physical education in relation to motor fitness, academic anxiety and academic achievement.

The key terms used in the present investigation are Attitude towards physical education, Motor fitness, Academic anxiety and

Academic achievement. Therefore it is imperative to carry out detailed discussion about these variables.

ATTITUDE

According to Longman dictionary the meaning of attitude is i) a way of feeling or thinking about some one or something especially as this influences one's behaviour ii) a position of the body.

According to Allport (1935), "An attitude is a mental and neural state of readiness organised through experience, exerting a directive or dynamic influence upon the individuals response to all objects and situations with which it is related."

Petty & Cacioppo (1986) believe that, "Attitudes are general evaluations people make about themselves, other persons, object or issues." In other words, attitudes involve lasting likes and dislikes, preferences and aversions, toward specific aspects of the external world.

"Attitudes are enduring mental representation of various features of the social or physical world. They are acquired through experience and exert a directive influence on subsequent behaviour." Breckler & Wiggins (1989).

Thurstone (1941) defined an attitude "as the degree of positive or negative affect associated with some psychological object." By a psychological object, Thurstone means any symbol, phrase, slogan, person, institution, ideal or idea towards which people can differ with respect to positive or negative affect.

To conclude one can safely infer that attitude is the way one's consciousness becomes conscious towards a particular thing, a situation or an idea.

Attitude is a predisposition to respond favourably or unfavourably towards an object, issue or situation. Sherif and Cantril (1947) have given the following characteristics of attitudes as described by Bonner (1953)

a) Attitudes have a subject-object relationship

b) Attitudes are formed

c) Attitudes have affective properties

d) Attitudes are relatively enduring states of readiness

e) Attitudes are as numerous and varied as the stimuli to which they refer

It may be summarised that attitudes are the basis of responding. Naturally they influence our behaviour and may be considered as basic ingredient of sports persons regarding physical activity related to various facets of their activity such as physical fitness, performance, subjects offered to persue studies etc.

Sports scientists and experts have extensively researched on attitudes to determine its implications and applications on sports performance.

Valdez (1998) studied the attitude of middle school students and their parents toward physical education. Results indicated that students and parents attitude toward physical education were significantly different in the over all category scores and in the general attitude and

scientific basis construct areas. No significant differences on attitude toward physical education were found between gender ethnicity and socio-economic status.

Christie (1997) studied the effects of a physical fitness concept curriculum, on attitude, knowledge and fitness levels of Ninth grade physical education students. The attitude towards physical education and conceptual knowledge of physical fitness concepts were significantly affected by the physical fitness concept curriculum (P =. 04). The overall results showed that the students reported more positive attitudes and greater conceptual knowledge from involvement in the concept curriculum.

Thomas (1996) analysed the attitude of high school students towards physical education and concluded that, as a whole there was a positive attitude towards physical education among all the students.

Carlson (1994) investigated secondary student's attitude towards physical education and also to identify the variables that contribute to the formation of those attitudes. Aspects of cultural, societal and school context were found to be the major influences of student's attitude towards physical education.

Cho (1991) in a significant study found that Korean national athletes and coaches had a favourable attitude towards athletic participation, they had favourable attitude towards self-concept and character development including social, moral and general aspects. Female national athletes had more favourable attitude towards athletics participation than their male counterparts. International athletes had more favourable attitude towards athletics participation than national level

athletes. Korean national coaches had more favourable attitude towards athletics participation than national level athletes.

Patterson and Fucette (1990) found that both boys and girls expressed favourable attitude towards physical activity.

Greenberg (1990) studied the effect of class size, scheduling patterns and curricular content on physical fitness achievement and attitude towards physical activity. Significant main effects of class size and programme were revealed for the ascetic sub-domain with students in single classes scoring higher than students in double classes, and students in physical fitness programme scoring higher than the students in traditional programmes.

Grewal (1986) studied to compare the physical fitness attitude towards physical activity and adjustment among college students of Panjab University across socio-economic levels. Data analysis in the case of attitude toward physical activity revealed that the comparison of high, middle and low socio-economic level groups have significant differences, while the differences between the high and low groups were found to be insignificant.

Krecik (1986) found that physical education students and non-participating students expressed a positive attitude towards physical education.

Doody (1984) conducted a study on 240 male and female fourth, fifth and sixth grade students. No difference ($P > 0.05$) in attitude towards physical education was found between the two groups. Sixth grade male students had more positive attitude towards physical education than sixth grade female students.

Kamit (1984) conducted a study to analyse the influence of social group and past experience attitudes on participation and non-participation in sports and physical activities. The result indicated that nearly all the respondents had positive attitude towards participation in sports/physical activity and increase in the level of participation were associated with increase in positive attitude, social group influence and level of past experience.

Singh (1978) studied the relationship of self-concept, socio-economic status and attitude towards physical activity of sportsmen and non-sportsmen. Result showed that there was significant difference between attitude of sportsmen and non-sportsmen towards physical activity and socio-economic status. Similar results were reported by Singh (1978).

Smoll (1976) studied the relationship among children's attitude, involvement and proficiency in physical activities. The results suggested that a strong relationship exist between the attitude domain and a combination of the involvement and performance domains.

Rolph (1971) administered a semantic differential attitude scale (physical education) and AAPHER youth fitness test to 100 Negro and 100 white 5^{th} and 6^{th} grade boys and same numbers of 9^{th} and 10^{th} grade boys. It was found that Negro boys scored significantly higher than white boys on overall physical fitness at both levels. The difference was greater at the 9^{th} and 10^{th} grade levels. Correlation between attitude towards physical education and physical fitness were found to be positive but quite low for each of the four groups.

Janet (1970) studied the attitudes of physically handicapped children towards physical education. It was discovered that there was a

significant difference in attitudes between means of the two groups. Children in the regular physical education had a more favourable attitude toward physical education than those in adapted physical education programme.

Moyer (1966) in his findings suggested a preference for individual sports, a highly favourable attitude towards physical education on the part of both freshmen and juniors and a need for re-evaluation of methodology and interpretation of objectives in teaching the required programme.

Lyons (1997) studied to ascertain the effect of participation in various undergraduate physical education activity courses on attitudes toward physical activity. Analysis of variance revealed that the attitudes of the students who had enrolled in various courses were not significantly different (P>0.38).

Meenu (1988) while investigating the attitude of university students towards physical activity concluded that there was no significant difference between science, physical education, and arts students on the attitude scale for physical activity and its place in university programme.

Scopelitis and Luise (1971) in their study concluded that the subject's attitude towards physical education was very positive and '*r*' between attitude, skill and participation were positive but not large enough to be significant.

From the above studies it emerges that a few of the researches pertain to attitude towards physical education and its relationship with varied physical activities. Most of the studies are related with athletes and non-athletes. Thus attitude towards physical education has been selected

as one of the important aspect of the present investigation, which may be related to motor fitness, academic anxiety and academic achievement.

ANXIETY

Today, anxiety is a common phenomenon of every day life. It plays a crucial role in human life because all of us are the victim of anxiety in different ways (Goodstein and Layon, 1975).

There is a growing interest in simultaneously studying the individual and the environment as interacting sources of behavioural variance. It has received a considerable amount of systematic investigation. In spite of its popularity, a major part of consensus is that the area of anxiety is one of the confusing terminology and ambiguous equivocal research findings (Martin, 1961; Ruebush, 1964; Levitt, 1967).

Anxiety is a central concept in almost all-contemporary personality theories. At various times, anxiety has been conceptualised as a response, a stimulus, a trait, a motive and a drive (Spielberger, 1972).

Anxiety may be conceived of as a state of cognitive disintegration. It entails the disruption of a person's sense of personal identity. So, anxiety may be referred to as a formal property of a wide variety of reactions to a threatened loss of personal identity. In another usage, 'anxiety' refers to a specific kind of response to some degree of actual cognitive disintegration.

However, anxiety fluctuates as a function of situations and conditions of the organism. Anxiety results when the individual's ego needs are threatened. In logical sequence, the development of emotional and behavioural disorders follows these steps. At the outset, person, events and situations in life are regarded as threats to the individual's ego

needs of security and worth. However, experience of anxiety will depend on the value he/she has developed for his/her own security needs. Subsequently, these threats cause the individual to react with anxiety. Finally, anxiety gives rise to tension, which may cause psychosomatic conditions to defence mechanisms, which may lead to psychoneurotic disorders.

Psychologists have put forward different viewpoints to explain the nature of anxiety. Freud (1933) suggested that when an organism is prevented from carrying out an instinct, it would lead to anxiety. It may be done through repression or through prevention of gratification. Later, Freud (1949) suggested that repression occurs because of the experience of anxiety. Whenever real or potential danger is detected by ego, this perception gives rise to anxiety and then mobilises the defensive apparatus including repression, which in turn leads the organism out of danger.

In other words, Freud (1949) has referred anxiety as kind of signal, a premonition of impending danger, an indicator that something is not going well in the life of the affected individual. It was also stated that when the ego is forced to acknowledge its weakness, it breaks out into anxiety.

Sullivan (1953) placed a great deal of emphasis on the interpersonal contents from which anxiety arises. He contended that, "it is important to find the basic vulnerabilities to anxiety and interpersonal relations, rather than to deal with symptoms called out by anxiety or to avoid anxiety".

Rachman (1998) defined anxiety as, "a pervasive and significant negative affect that is a central feature of many psychological problems".

On the basis of the results obtained from applying a variety of factor analytic procedures to both cross-sectional and longitudinal data, Cattell and his associates (1961) stressed that there are dimensions of stable inter-individual differences (traits) and dimensions of intra-individual changes (states).

A typical view of traits assumes that: (1) traits are dispositions within the person that predispose him to perceive situation in particular ways and to react in a consistent manner in a wide variety of situations (Allport, 1935; Spielberger, 1966); (2) Traits are a summary of the frequency and intensity of past states and can be validly assessed by asking the individual to describe himself as he is 'generally' 'often' or usually (Spielberger, 1972).

States are, hypothetical constructs, as are traits but state measures are responses of interest in themselves, while trait measures are simply a sampling of person's self-labelling habits or retrospective and generalised accounts of past states.

ANXIETY AS A STATE

State anxiety (A-State) is a transitory emotional state or condition of human organism that varies in intensity and fluctuates over time. This condition is characterised by subjective, consciously perceived feelings of tension, apprehension and activation of autonomic nervous system (Spielberger, 1966). If a situation or thought is perceived as threatening irrespective of the presence of real or objective danger (stress), the person who perceives the situation as threatening will experience an increase in state anxiety. The stress levels of the situation and individual's experience of it thus define state anxiety. State anxiety is enhanced by threatening and stressful situations as compared to non-stressful

situations. It is extremely dependent upon the perception of a situation by a person. In other words states are temporary moments in one's life and are transitory in nature. Their quality and intensity will vary from situation to situation.

ANXIETY AS A TRAIT

Anxiety as personality trait refers to relatively enduring individual differences among people regarding their tendencies to perceive the world in a certain way and to behave in a specific manner. Spielberger (1966) also proposed that trait anxiety reflect anxiety proneness, that is, there were individual differences in the tendency to respond with increased state anxiety to various levels of stress. People who perceive a particular situation, as threatening will respond to it with an elevated state anxiety, irrespective of any real (objective) danger. Their behaviour can be predicted with extreme accuracy. "An anxiety (A-trait) is not directly manifested in behaviour, but may be inferred from the frequency and intensity of an individual's elevations in A-state overtime" (Spielberger, 1972). Frequency and intensity of an emotional state depend upon the strength of personality traits. It means that there are relatively stable individual differences in anxiety proneness that is to perceive a variety of situations as threatening and to respond to these situations with differential elevations in state anxiety. Persons who are high in A-Trait tend to perceive a larger number of situations as dangerous or threatening than persons who are low in A-Trait and respond to threatening situation with A-state elevations of greater intensity.

In nutshell anxiety as a process refers to a sequence of cognitive, affective, physiological and behavioural events. Most of the investigators have defined anxiety in terms of complex personality processes with

multiple components and each investigator has tended to include different aspects in his definition of the anxiety process.

It could easily be inferred that academic anxiety is a kind of state anxiety, which relates to the impending danger from the changing environment of examination, accidents, punishments etc., of the academic institutions including teachers and certain subjects.

Panchanatham and Shanmugaganesan (1992) carried a study to find the relationship between academic achievement and psychological stress among the university Post-Graduate students. The sample comprised of 170 Postgraduate students of Annamalai University (Tamil Nadu). Everly Girdano Psychological stress scale was used to measure stress, and marks scored in the final year examination were treated as academic achievement. The results indicated negative correlation between psychological stress and academic achievement. No difference was found in the academic achievement of students on the basis of sex, nature of the course of study, Socio-economic status and the type of family.

Siddiqui and Akhtar (1983) studied the relationship between anxiety and academic achievement in students. The study revealed that there is a negative relationship between anxiety and academic achievement.

Pandit (1969) studied the role of anxiety in academic learning and achievement of schoolboys of grade V and concluded that anxiety bore a negative relationship with learning and academic achievement.

Sharma and Ahuja (1979) attempted to find out the impact of anxiety on performance. It was found that the low anxiety students performed significantly better than the high anxiety students.

Shamim (1979) did an exploratory study to find out relationship between academic achievement and anxiety of school going children. She concluded that: (a) High achievers (boys) have low level of anxiety and low achievers have high level of anxiety showing thereby negative relationship between achievement and anxiety scores amongst boys, (b) Girls with high anxiety have low academic achievement and vice-versa. This gives the evidence that anxiety scores are inversely related to achievement scores. (c) The difference between means of anxiety scores of high and low achievers was significant i.e., higher anxious students have shown poor academic performance and less anxious students have shown good performance at school level. (d) It was also revealed that the girls were more anxious than the boys at high school level. (e) Anxiety scores and academic performance scores of students were negatively correlated meaning thereby that high achievers were psychologically less anxious.

Tandon (1978) attempted to investigate the anxiety level of underachievers. The investigation revealed that under achievers were highly anxious.

Vora (1978) studied the relationship between anxiety scale for children and Patel's reading ability test served as measuring tools. The investigator concluded that anxiety and reading achievement show negative but significant relationship.

Vishnoi (1975) tried to find out the relationship between anxiety and academic achievement of over and under achievers. The findings of

the study revealed that there has to be negative relationship between anxiety and achievement.

Rai (1974) in his study also revealed that low level of anxiety helps in achieving high.

Dhaliwal (1971) conducted a study to find out the anxiety level of successful and failing students. It was found that if the level of anxiety is lower than a certain minimum, it will neither have a facilitating nor a harmful effect on academic achievement.

Feldbuson, Denny and Condon (1965) conducted a study to find out the relationship between anxiety and academic achievement. The finding revealed that high anxious males as well as females were lower on the criterion measure and vice-versa.

A study of university students revealed that low achievers were significantly more anxious than the high achievers (Sinha, 1965).

Reilly and Ripple (1967) attempted to study the relationship between anxiety and academic achievement. The investigation revealed that there was a correlation of – 0.53 points between test anxiety and achievement.

Singh (1950) attempted to test the hypothesis that low anxious students would show better performance records than high anxious students. Results showed a negative correlation between anxiety and achievement.

It may be concluded that optimum level of anxiety seems to be important for activating individuals but heightened anxiety may adversely influence almost all aspects of human behaviour.

MOTOR FITNESS

The term Motor Fitness was evolved during World War II. Barrow and Mc.Gee (1979) defined Motor fitness as, "a readiness or Preparedness for performance with special regard for big muscle activity without undue fatigue. It concerns the capacity to move the body efficiently with force over a reasonable length of time.

The basic component of motor fitness includes strength, endurance, speed, flexibility and coordinative abilities. Strength is considered primarily as muscular endurance, which denotes the ability to overcome resistance or to act against it. Endurance is the ability to perform a task for a longer duration with required efficiency under the condition of fatigue. Speed means rapidity of movement to accomplish a specific task in a minimum possible time. Speed is partly condition ability as well as coordinative ability its components are reaction ability, acceleration ability, locomotion ability and movement time. Coordinative ability are the replacement of the term agility. It is a complex ability that includes, differentiation ability, Orientation ability coupling ability, reaction ability, rhythmic ability and adaptation ability (Singh, 1993).

In view of its inherent significance with regard to all sort of physical activities the investigator selected motor fitness as one of the variables to explore its relationship with academic anxiety, academic achievement and attitude towards physical education.

ACADEMIC ACHIEVEMENT

The concept of achievement refers to the fact that the subject is not merely executing a task without assistance but is trying to perform well with the aim of eliciting positive reinforcement for his demonstrated

competence in the task. Academic achievement means, the achievement a student makes in school, college or university in terms of his marks scored in the examination, which is the criterion for the performance of the student. Academic achievement is also known as scholastic achievement.

According to Remmers and Gage (1955) scholastic achievement is the degree to which the pupil has moved toward the objective of the school. From the definition it is clear that the academic achievement measures the extent to which individuals have acquired certain knowledge, skills, concepts and abilities as a result of instructions and training received at the school or college level. Singhal (1974) advocated achieving students had more adequate levels of both personal and social adjustment than did underachieving students. He also found a significantly high relationship between college achievement and the emotional and social adjustment of the school children.

Tucker (1999) found positive relationship between interscholastic athletic participation and academic achievement as defined by grade point averages of the students. Subjects who participated in interscholastic athletics had higher grade point averages than the general student population.

Beal (1999) compared academic achievement of student athletes and non-athletes at the university of North Dakota. Result showed that student athlete's academic achievement surpassed non-athletes.

Biernacki (1994) studied the relationship between physical fitness development and achievement scores in mathematics and reading. A significant difference in the academic achievement of the students receiving the programme and those not receiving the programme was

observed. There was a significant interaction on the variable of achievement between the year of the programme and whether the student participated in the programme or not.

Smith (1989) in his study found that athletics has a direct bearing on student citizenship and athletic participation was an important predictor for grades. Athletic participation exerts a significant positive indirect influence on high school graduation using citizenship and grades as primary intervening variables.

Singh (1989) undertook a study with a view to find out a comparative difference between categorised groups of strength, speed, endurance, agility and flexibility in relation to their academic scores. It was concluded that group with greater agility, endurance and strength dominate academic achievement.

Patranella (1987) studied the academic performance, attendance and schedule rigor of extracurricular participants and non-participants. Results indicated that participants and non-participants were significantly different ($P< 0.05$) for each of the three dependent variables of academic performance, attendance and schedule. Also, those who participated in physical activities seemed to take the more difficult schedule of courses and make better grades.

Kiran (1986) studied the relationship of academic achievement and physical fitness of high school students and concluded that there was high positive correlation of physical fitness and academic achievements of boys but in case of girls no significant correlation between academic achievement and physical fitness was observed.

Kaur (1981) did a comparative study of personality adjustment, personality characteristics and academic achievement of teacher trainees and physical education students. The results showed that teacher trainees were more intelligent fast learners and mentally alert than physical education students. The results of academic achievement revealed significant differences between both groups. Academic achievement of teacher trainees was greater than physical education students.

McGill. (1979) Studied psychosocial and motor characteristic of participants and non-participants in children sports. Results indicated that the two groups of children could not be distinguished on the basis of these facts. It was found that number of children involved in sports was very large.

Hart (1975) Paired 50 high school male athletes who had participated in at least two varsity sports for at least one session with 50 non-athletes according to their scores on the verbal and numerical sub tests. The result showed that athletes were found to have consistently higher grade point average means than did their matched non-athletes. Further 54% of the athletes ranked in the upper half of their graduating class as compared to 36% for matched non-athletes.

Buhrmann (1972) in a longitudinal study conducted on a group of adolescent males over the period 1959 to 1965 observed that athletic participation was more strongly linked with educational success.

Sighultz (1971) observed that participation in athletics did not adversely affect academic achievement. Athletes achieved greater academic success than non-athletes. The better athletes were high academic achievers than the average athletes. The additional time

required for the better athletes to participate in practice games and sports had no apparent ill effects on their academic achievement.

Boespelug (1968) observed that the students who obtained high physical fitness scores appeared more socially accepted, socially adjusted and also had better academic achievement than the subjects with low physical fitness scores.

Arnett (1968) explored the relationship between selected physical fitness items and academic achievement of college women. Analysis of variance revealed significant differences among high, fair and poor fitness classifications in terms of grade point average. Those who achieved higher grade point average were also high on the physical fitness scores.

Baker (1967) reported a positive but insignificant correlation between physical fitness and the co-relations of physical fitness with academic achievement and emotional adjustment were positive and significant but low.

Carlson (1967) also found that correlation between physical fitness attainment and academic achievement for a group equated physically and mentally was significant at the .o5 level. The physical fitness attainment scores of the academically high individuals in both groups were significantly higher than those of the academically low individuals.

Meeks (1966) observed that the physically fit students have better personalities, made better grades and were more socially accepted by their peers than the physically unfit students.

Thomas (1965) conducted an experiment on 113 male students. Significant correlation was found between physical fitness and motor

educability, physical fitness and physical education activity grades, and motor educability and physical education grades.

Hart (1964) in his study attempted to discover the relationship between academic achievement and the level of physical fitness of college students. It was concluded that the relationship between academic achievement and physical fitness was significant at .01 level of confidence.

McMillan (1962) found partial correlation of .26 between physical fitness and academic index holding the I.Q. constant. Using top and bottom quarters of academic index, a *'t'* of 2.11 (at .05) indicated a higher level of physical fitness of those in top quarters than those in the bottom quarter.

Somers (1951) made a comparative study of participation in sports and academics. It was found that participation in class team competition does not appreciably affect either adversely or favourably the academic grade of student participants either in any single year or over the entire four periods of collegiate education.

Jacobson (1931) concluded that athletes were higher than non-athletes in terms of academic grades or achievement as measured by the school marks.

Main (1999) studied the interaction effects of athletic participation gender and academic stream with self-esteem academic achievement and educational aspiration. Result showed that academic achievement as measured by grade point average had no relationship with athletic participation.

Kline (1997) studied the relationship between academic achievement and athletic participation of female and male athletes. The results showed a difference between athletes, partial athletes and non-athletes with respect to academic achievement. It was revealed that although athletes, both male and female were categorised as performing at a lower academic level than partial athletes and non-athletes, the relationship between the groups on grade point average was not significant.

The academic achievement of college football and basketball players was compared with non-athletes. The results revealed no significant differences in grade point average existed between athletes and non-athletes (Billy and Berger, 1973)

Domingos (1961) attempted to determine the relationship between motor fitness and academic achievement of 643 fresh college men and women. Analysis of the data did not show any relationship between motor fitness and academic achievement. Similar inferences were drawn by Jorndt (1968).

Pangle (1956) undertook a study on academic achievement of high school athletes. He found that there was no significant difference with regard to academic attainment between those who participated in the athletics programme and those who did not.

Researches by and large have proved that people engaged in physical activity also do well in their studies. The review of literature revealed that a host of researchers have tried to study psycho-social variables such as parental attitude towards physical education, participation in physical activity, athletic participation, psychological stress, social and emotional adjustment, etc. in relation to physical fitness

and participation in physical education programme. But a very negligible investigations so far been conducted taking into account student's attitude towards physical education, motor fitness, academic anxiety and academic achievement. Hence the present investigation is humble effort of the investigator to study these variables.

SIGNIFICANCE OF THE STUDY

There is a misplaced notion that participation in games and sports is usually responsible for poor academic attainment with the result that parents do not allow their children to indulge in physical activity. In my opinion it is the duty of physical education teacher to empirically prove that the contention is wrong. The present study may bring to light the significance of motor fitness for academic achievement and broad adjustment in the life of people. In other words we may say that motor fitness may improve the quality of life of people.

In the present study AAPHER youth fitness test has been used which consist of 600 yd run/walk, 50 yd dash, shuttle run, standing broad jump, sit up and pull up/ hanging (for girls). Researches have been done in our country on single or a few components of fitness test. Under present study we have considered all the five components of motor fitness.

The study was conducted in Chandigarh where government and private institutions are imparting education to students. Incidentally the emphasis on physical education in the two types of institutions is not similar. The present study is expected to highlight the differences or similarities if any, in the two type of institution. On the basis of the result obtained we may develop programmes to remove the shortcomings.

In our review of literature we have observed that attitudes play a significant role in the development of behaviour. The study of attitude towards physical education and its relationship with academic anxiety and academic achievement is expected to address the contentious issues related to the physical education programme in our country.

Furthermore a comparative study of boys and girls has also been undertaken on a wider sample. The findings may easily be generalised. This may help in motivating the students for mass participation in games and sports.

We have used random sampling technique to obtain data from 600 students of Chandigarh. Statistical methods such as product moment coefficient of correlation and *'t'* test have been used to analyse data and draw unbiased inferences from the analyses.

Chapter II

CHAPTER-II

METHOD AND PROCEDURE

Edwards (1956) believes that researches should be well planned and must be carried out using sound means and techniques for investigations. Scientists ascertain facts and analyse them in an unbiased manner to draw conclusions. Research design obviously plays a significant role in inference making, using behavioural observations on a limited number of subjects and making decision or predictions about the behaviour of the large group represented by these subjects. Mohsin (1984) opines that "research design depicts the plan which states the relation between observed facts and events on the basis of which conclusion could be drawn." Further elaborating Ferguson (1981) asserts that several methodological approaches and designs have been developed but the choice of appropriate design depends upon the special characteristics of the sample, nature of measuring instruments and restraints regarding the manipulation of variables being studied. Thus, the aims of the study, the variable under investigation and the nature of data govern the choice of method.

The present study has been designed to study the relationship between attitude towards physical education, motor fitness, academic anxiety and academic achievement of class XI and XII students. The components of motor fitness as described earlier include 600-yd run/walk, 50-yd dash, shuttle run, standing broad jump, pull up and sit up. The most appropriate technique of measuring motor fitness is considered to be AAPHER Youth fitness test as described by Allen &

James (1979) and methods followed for carrying out the scientific work in hand has been described in this chapter.

DESIGN OF THE STUDY

A status-co study has been designed to find out the attitude of school students towards physical education in relation to their motor fitness, academic anxiety and academic achievement.

SAMPLE

Random sampling technique was used to select 600 students consisting of equal number of male and female students from government and private schools of Chandigarh to act as subjects for the study. All the students belonged to XI and XII classes. There was a specific reason to consider XI and XII class students only because the subject of physical education starts only in these classes. Further data on 300 students consisting equal ratio of boys and girls who opted physical education as an elective subject were taken. Similarly 300 subjects including boys and girls were considered who did not opt physical education as an academic subject.

The break up of subjects is given below:

Physical Education	Govt. Schools		Private Schools	
	Girls	Boys	Girls	Boys
Opted as a subject	75	75	75	75
Not Opted as subject	75	75	75	75

Approximately ten percent of total population of students of class XI and XII acted as subjects for the study.

TOOLS USED

1) Edginton Attitude Scale

Edginton attitude scale (1965) measures attitude towards physical education. It is a likert type 6-point scale having 66 items. Half of the items are negatively and half positively worded. It has a split half reliability coefficient of .79. The discriminatory values of the items range between .30 to .90. The test is considered to be valid. Other researchers have also reported that it is sufficiently reliable and valid measure of attitude towards physical education (Thomas, 1996). [Appendix 2].

2) AAPHER Youth Fitness Test Battery

AAPHER youth fitness test battery was used to evaluate the motor fitness of the subjects. The test battery consists of following items.

A)	600-yd Run/walk	B)	50-yd dash
C)	Shuttle Run	D)	Pull Up
E)	Standing Broad jump	F)	Sit up

AAPHER Youth fitness test: Abilities that item measure

S.no.	Items	Abilities measure
A	600-yd run/walk	Cardio respiratory endurance
B	50-yd dash	Speed
C	Shuttle run	Speed and agility (Coordination abilities)
D	Pull–up (boys) or Flexed arm hangs (girls)	Strength and endurance of arm and shoulder girdle.
E	Standing broad jump	Explosive power of leg extensor
F	Flexed leg sit up	Strength and endurance of abdominal and hip flexion muscles

3) Academic Anxiety Scale

To measure academic anxiety Singh and Gupta (1984) Academic Anxiety Scale was used. It has twenty items, sixteen items positively worded and four items negatively worded. A score of one is assigned on yes/no responses. A low score obtained indicates low academic anxiety.

Test retest reliability coefficient on a sample of 100 subjects with 14 days gap was found to be 0.60. Split half reliability coefficient (n=100) for another sample was 0.65.

The academic anxiety scale for children was validated against simple anxiety test, Neuroticism scale of MPI and CAAT. The following results were obtained.

Test	Criterion	Correlation	N	P
Academic Anxiety Scale (AASC)	Neuroticism Scale	0.31*	100	< 0.01
	Sinha Anxiety Scale	0.41*	100	< 0.01
	CAAT	0.57*	100	< 0.01

*Significant

The test was found to be reliable and valid. [Appendix 3].

SCORING PATTERN

Edginton Attitude Scale

The scoring pattern given by the authors is a self-evaluation questionnaire of 66 statements in which 33 are positive and 33 are negative responses.

The subjects respond to each statement using a six point likert scale varying from.

i) 1 (Very strongly agree for negative statement and very strongly disagree for positive statement)

ii) 2 (Strongly agree for negative statement and strongly disagree for positive statement)

iii) 3 (Agree for negative statement and disagree for positive statement)

iv) 4 (Agree for Positive statement and disagree for negative statement)

v) 5 (Strongly disagree for negative statement and strongly agree for positive statement)

vi) 6 (Very strongly agree for positive statement and very strongly disagree for negative statement) in order of intensity of feeling.

The minimum pole of response stands at 66 and maximum pole at 396. Score above 264 would indicate an attitude on favourable side. Each item is scored separately and then summed up to get a total score. [Appendix 2].

AAPHER Youth Fitness Test

The items of the test were grouped on the basis of time, distance covered and number of repetitions. 600 yd run/walk, 50 yd dash, shuttle run and hanging up (in case of girls) were scored against the time the subjects clicked. The score of standing broad jump was calculated according to the distance covered during the jump by the individual. The score of pull-ups and sit-ups were obtained by counting the number of repetitions.

Academic Anxiety Scale

The maximum possible score of this test is 20. Each item of the test is scored either 1 or 0. There are two types of items positive and negative. All positive items, which are endorsed by the subjects as "yes", and all negative items, which are endorsed by the subjects as 'No', are given a score of 1. A score of zero is awarded to all other answers. Thus

high score on the test indicates high academic anxiety and low score on the test indicates low academic anxiety. [Appendix 3].

Academic Achievement

Marks of annual examination of Xth and XIth classes were considered as the academic achievement of the subjects.

ADMINISTRATION OF MOTOR FITNESS TEST AND COLLETION OF DATA

A) 600 YARD RUN/ WALK

Equipment used: Stopwatch

Description

The test was conducted on 100-yd track marked by researcher. Instructions were given to all the subjects about start, finish and the laps they have to complete. Five subjects ran at a time. The subjects took standing start. At the signal "on your marks" and the sound "go" the subjects started off. At the finish line 4 to 5 students helped the researcher to find out the positions of subjects. The timing was noted down according to the position of the subjects. The subjects were permitted to complete the test by running or walking or both. Time was recorded in minutes and seconds as one's score.

B) 50 YARD DASH

Equipment used: Measuring Tape, Stopwatch and a Clapper

Description

One subject runs at a time. He took position behind the starting line. The researcher stood at the finish line with stopwatch. The physical education teacher of the school gave the command "on your mark" and flag down with command "go" simultaneously. The researcher started the watch as the flag lowered and stopped the watch when the subject crosses over the finish line. Time taken by the subject was recorded.

C) SHUTTLE RUN

Equipment used: Two Batons and a Stopwatch

Description

Two parallel lines 30 feet apart were marked on the ground. Two batons were placed on one of the lines. The subjects started from behind the other line. On the signal "Ready, Go" the subjects runs to the batons, picks up one, runs back to the starting line and puts the baton on starting line. He then runs back and picks up the second baton, which he carried back to the starting line. Two trials were allowed with an interval during which another pair of students was tested. Best time of the two trials was recorded.

D) SIT-UP

Equipment used: Stopwatch and mats

Description

The subjects were asked to assume a supine lying position on the floor with knees bent to an angle a little less than90 degrees, hands held behind the neck. A partner held down the feet. The subject brought his head and elbow forward in a Curl-up motion, after touching the knee subject has to go back to his starting position. The finger remains locked behind the neck throughout the exercise. The subjects were given only 60 seconds to perform the sit-ups. Number of correctly executed sit-ups performed in one minute was recorded as the score.

E) STANDING BROAD JUMP

Equipment used: Measuring tape and jumping pit

Description

The subject stood behind the starting line with feet comfortably apart and the toes just behind the take-off line. Preparatory to jump, the subject swings the arm backward and bent the knees. Simultaneously extending the knees and swinging forward the arms accomplished the jump. Three trials were allowed. Measurements were taken from the take off line to that part of the body that touched the pit nearest to the take off line. Running or stepping was not permitted. The best out of three trials was recorded as his score.

F) PULL-UP (For Boys)

Equipment used: Horizontal bars

Description

The horizontal bar was high enough so that the subject could hang with his arms and legs fully extended and his feet were off the floor. The subjects were asked to use the over handgrip. After assuming the hanging position the subject raised his body by his hands until his chin crosses over the bar and then lowered his body to a full hang as in the starting position. The exercise was repeated as many times as possible. Only one trial was allowed unless it was obvious that the subjects had not a fair chance. The swing of the body was not allowed during the execution of the movement. The raising of the knees and kicking of the legs were not permitted.

The number of completed pull-up was recorded as one's score.

G) FLEX ARM HANG (for girls)

Equipment used: Horizontal bar and a Stopwatch

Procedure

The flex arm hang was substituted for the modified pull-up. It is a more efficient and reliable measure of arms and shoulder girdle strength for girls. The subject raises her body off the floor to a position where the arms are flexed.

Rules

(i) Bar was gripped overhead.

(ii) The head was in line with the body and not tilted backward.

(iii) Swinging was not allowed.

The time elapsed to the nearest second from the time, the girl assumes the hanging position until she is no longer able to maintain the chin above the bar, is the score.

CONDUCT OF TEST AND COLLECTION OF DATA

The researcher individually collected the data from selected schools. The subjects were contacted through the physical education teacher of each school and the procedure was explained. On the first visit to the school the selected subjects were seated in a classroom. The purpose of the research and its significance in teaching learning process was explained to them. An assurance of sincere and honest co-operation was obtained from the subjects. The questionnaire were distributed to them and the instructions were explained in detail as laid down in the manual of the scale so that no doubt was left in the minds of the subject for giving their candid responses to the questionnaire. Duly filled response sheets of each questionnaire were collected back by the investigator.

The second and third visit was on the following working days of the school to conduct motor fitness test. Motor fitness test was staggered to two days. The first three items were conducted in one group and the remaining three in the second group.

Academic achievement was taken from the school records of the subjects, which was based on the academic results of their Xth and XIth classes.

HYPOTHESES

a) There would be significant relationship between academic anxiety and attitude of student towards physical education.

b) There would be significant relationship between motor fitness and attitude of students toward physical education.

c) There would be significant relationship between academic achievement and attitude towards physical education.

d) There would be no significant difference between male and female students in their attitude towards physical education.

e) There would be no significant difference in the attitude of student opting and not opting physical education as an elective subject.

f) There would be no significant difference in attitude towards physical education between the students studying in Government and Private schools.

STATISTICAL DESIGN

Product moment coefficient of correlation was used to find out relationship of attitude towards physical education with motor fitness, academic anxiety and academic achievement. Analysis of variance was used to find out significant difference between various groups of subjects as per the explanation given earlier in this chapter. t-test was applied to test the hypotheses.

Chapter III

RESULTS AND DISCUSSION

The study was designed to find out the attitude of school students towards physical education as related to their motor fitness, academic anxiety and academic achievement. The data thus collected was organised for statistical analysis. The interpretation of results and their analysis have been reported in the present chapter.

The results related to the relationship between attitude towards physical education, motor fitness, academic anxiety and academic achievement have been presented below.

Relationship between attitude towards physical education, motor fitness, academic anxiety and academic achievement of boys (N=300) has been presented in Table-1.

From the results given in Table-1, it has been observed that there are significant relationships between attitude towards physical education and 600 yd run/walk, shuttle run, standing broad jump, academic anxiety and academic achievement. This is true of correlation shown under serial numbers1and 3. The relationship between 600 yd run/walk and shuttle run are significant at 0.01 level, whereas the relationship between 50-yd dash and time taken is insignificant. Standing broad jump and attitude towards physical education yielded positive correlation (r=0.193), which was found to be significant at 0.01 level. Similar is the case between attitude towards physical education and academic achievement. But the relationship between Academic anxiety and attitude towards physical education ($r = -0.139$) is significant at 0.05 level.

Table-1

Relationship between attitude towards Physical education, Motor fitness, Academic anxiety and Academic achievement of Boys ($N = 300$)

S.N.	Variables	Correlation
1	600 yd run/walk	−0.182*
2	50 yd dash	−0.088
3	Shuttle run	−0.160*
4	Pull-up	−0.019
5	Sit-up	−0.012
6	Standing broad jump	0.193*
7	Total motor fitness	0.039
8	Academic anxiety	−0.139*
9	Academic achievement	0.239*

$t_{0.05,\ 298} = 0.113$, and $t_{0.01,\ 298} = 0.148$

The negative value of r is obtained when increase in one variable is accompanied by the decrease in the other. This is reflected in the results reported under serial numbers 1-5 and 8. Generally the subject's obtained much higher score on attitude towards physical education and lower scores on Motor Fitness variables (1-5) and Academic Anxiety (8). It means that those who have higher scores on attitude towards physical education have lower score on academic anxiety i.e., they don't suffer

from anxiety related to academic affairs. In motor fitness variables like 600 yd run/walk, 50 yd dash, and shuttle run less is the time better is the performance and in other events like pull up, sit up more the number of repetitions better is the performance where as standing broad jump longer the distance covered better is the performance.

The result indicates that attitude towards physical education is significantly related to 600 yd run/walk, shuttle run and standing broad jump. It is also clear that attitude towards physical education is significantly related to Academic achievement. But the relationship between attitude towards physical education and Academic anxiety is negative though significant at 0.05 level. These results are of boy's sample.

The result of the girl sample is presented in table-2.

Table-2

Relationship between attitude towards Physical education, Motor fitness, Academic anxiety and Academic achievement of Girls ($N = 300$)

S.N.	Variables	Correlation
1	600 yd run/walk	−0.354*
2	50 yd dash	−0.215*
3	Shuttle run	−0.261*
4	Pull-up	0.048
5	Sit-up	0.079
6	Standing broad jump	0.225*
7	Total motor fitness	−0.029
8	Academic anxiety	−0.079*
9	Academic achievement	0.222*

$t_{0.05,\ 298} = 0.113$, and $t_{0.01,\ 298} = 0.148$

The results reported in Table-2 lead us to infer that the relationship between attitude towards physical education and 600 yd run/walk ($r = -0.354$), 50 yd dash ($r = -0.215$), shuttle run ($r = -0.261$) and standing broad jump ($r = 0.225$) and academic achievement ($r = 0.222$) are significant at 0.01 level. The rest of the results were not found to be statistically significant.

It may be summarised that attitude towards physical education is significantly related to academic achievement, motor fitness variables like 600 yd run/walk, 50 yd dash, shuttle run and standing broad jump. When we compare the results of boys and girl's similar trend is observable with a few exceptions. Significant correlation between attitude towards physical education and motor fitness, variables such as 600 yd run/walk, Shuttle run, Standing broad jump, and Academic achievement are common to both the samples. The difference between the two samples is related to 50-yd dash and academic anxiety.

In the following table we have analysed the results of boys who opted Physical education.

Table-3

Relationship between attitude towards Physical education, Motor fitness, Academic anxiety and Academic achievement of Boys who opted Physical education ($N = 150$)

S.N.	Variables	Correlation
1	600 yd run/walk	– 0.032
2	50 yd dash	– 0.047
3	Shuttle run	– 0.136
4	Pull-up	– 0.048
5	Sit-up	– 0.065
6	Standing broad jump	0.092
7	Total motor fitness	0.058
8	Academic anxiety	– 0.007
9	Academic achievement	0.055

$t_{0.05,\ 148} = 0.160$, and $t_{0.01,\ 148} = 0.21$

It is interesting that none of the variables under study yielded significant correlation between attitude towards Physical education, Motor fitness variables, Academic anxiety and Academic achievement.

The next table presents the analysis of boys not opted Physical education.

Table-4

Relationship between attitude towards Physical education Motor fitness, Academic anxiety and Academic achievement of Boys not opting physical education ($N = 150$)

S.N.	Variables	Correlation
1	600 yd run/walk	– 0.012
2	50 yd dash	– 0.052
3	Shuttle run	– 0.059
4	Pull-up	– 0.059
5	Sit-up	– 0.053
6	Standing broad jump	0.111
7	Total motor fitness	0.026
8	Academic anxiety	– 0.129
9	Academic achievement	0.217*

$t_{0.05,\ 148} = 0.160$, and $t_{0.01,\ 148} = 0.21$

Here again we find that the relationship between attitude towards physical education and Motor fitness and Academic anxiety did not yield significant values 0.01 level.

By and large the results are the same for boys who opted and who did not opt physical education as an elective subject. The only difference is with regard to academic achievement (r = 0.217). It is positive and significant at 0.01 level.

Table-5

Relationship between attitude towards Physical education, Motor fitness, Academic anxiety and Academic achievement of Girls who opted physical education ($N = 150$)

S.N.	Variables	Correlation
1	600 yd run/walk	−0.222*
2	50 yd dash	−0.213*
3	Shuttle run	−0.112
4	Pull-up	−0.071
5	Sit-up	0.068
6	Standing broad jump	0.101
7	Total motor fitness	0.130
8	Academic anxiety	−0.120
9	Academic achievement	0.249*

$t_{0.05,148} = 0.160$, and $t_{0.01,148} = 0.21$

The relationship between attitude towards physical education and total motor fitness was found to be statistically insignificant for girls who opted physical education. Similar results have been obtained with the motor fitness components such as shuttle run, pull-ups, sit ups and standing broad jump. Only the relationship between attitude towards physical education and 600 yd run ($r = -0.22$) and attitude towards physical education and 50 yd dash ($r = -0.21$) were found to be significant at 0.01 level.

The relationship between academic anxiety and attitude towards physical education was found to be ($r = -0.12$) statistically insignificant.

But the relationship between attitude towards physical education and academic achievement emerged significant at .01 level.

Table-6

Relationship between attitude towards Physical education, Motor fitness, Academic anxiety and Academic achievement of Girls not opted Physical education ($N = 150$)

S.N.	Variables	Correlation
1	600 yd run/walk	−0.312*
2	50 yd dash	−0.111
3	Shuttle run	−0.253*
4	Pull-up	0.110
5	Sit-up	0.102
6	Standing broad jump	0.158
7	Total motor fitness	0.326*
8	Academic anxiety	−0.070
9	Academic achievement	0.218*

$t_{0.05,148} = 0.160$, and $t_{0.01,148} = 0.21$

For the girls' not opted physical education, the relationship between attitude towards physical education and total motor fitness ($r = 0.326$) was found to be positive and statistically significant at 0.01 level. As regard to various components of motor fitness the relationship between 600-yd run/walk and shuttle run was statistically significant. The relationship was found to be negative because the distance was covered during shorter period of time. The rest of the components of motor fitness were found to be statistically insignificant.

The relationship between academic anxiety and attitude towards physical education was also found to be negative and insignificant. However the relationship between attitude towards physical education and academic achievement $(r = 0.218)$ was found to be positive and statistically significant at 0.01 level.

The differences between opted and not opted (physical education) groups pertain to 50-yd dash, shuttle run and total motor fitness. The groups have shown similar trends with respect to 600-yd run/ walk and academic achievement. The correlation computed between attitude towards physical education and the variables mentioned above were found to be statistically significant.

The sample of our study consists of boys and girls studying in private and government school as well as those who did not opt physical education as a teaching subject. The differences between these groups were determined by computing 't' Test. The results are given in the following tables. The result of mean difference between attitude scores of boys and girls (total sample) towards physical education has been given in table-7.

Table-7

The mean difference of attitude scores towards physical education of Boys and Girls

Group	Mean	SD	Mean Difference	Standard error of mean	t	Remarks
Boys $N = 300$	285.23	30.77	1.49	2.502	0.60	t was found to be insignificant
Girls $N = 300$	286.72	30.52				

$t_{0.05,\ 598} = 1.96$, and $t_{0.01,\ 598} = 2.59$

The results presented in table-7 do not indicate any significant difference between the scores of attitude towards Physical education of boys and girls. The calculated *t* value 0.60 was found to be far below than the table value of 1.96 required to be significant at 0.05 level.

The above result pertains to the total sample of boys and girls (N=600) irrespective of opting or not opting physical education as an optional subject or studying in govt or private school. The total sample has been divided into various subgroups i.e., the boys (N=300) as well as girls (N=300) who opted physical education as a subject and the other group who did not opt the subject. These groups attitude towards physical education has been compared.

The result of mean difference between attitude scores of boys opted and not opted physical education has been presented in Table-8.

Table-8

Mean difference of attitude towards physical education between Boys opted physical education and not opted physical education

Group	Mean	SD	Mean Difference	Standard error of mean	*t*	Remarks
Boys opted $N = 150$	299.33	27.86	28.20	3.16	8.91	*t* was found to be significant
Boys not opted $N = 150$	271.13	26.91				

$t_{0.05,\ 298} = 1.96$, and $t_{0.01,\ 298} = 2.59$

The value of 't' presented under table-8 was found to be statistically significant at .01 level of confidence. The mean value of the opted group is 299.33 and the mean of not opted group is 271.13. It indicates that the boys who opted physical education as an elective

subject significantly differed with those who had not opted physical education.

It emerges that the boys who opted physical education have obtained higher score on attitude towards physical education as compared to the boys who did not opt physical education. The boys who opted physical education were more knowledgeable about the subject and hence their attitude towards the subject was found to be more favourable as compared to those who had not opted the subject.

The result of mean difference between attitude scores of girls opted and not opted physical education has been presented in Table-9.

Table-9

Mean difference of attitude scores between Girls opted physical education and not opted physical education

Group	Mean	SD	Mean Difference	Standard error of mean	t	Remarks
Girls opted $N = 150$	296.76	32.53	20.08	3.33	6.02	t was found to be significant
Girls not opted $N = 150$	276.68	24.68				

$t_{0.05,\ 298} = 1.96$, and $t_{0.01,\ 298} = 2.59$

The result presented in table-9 indicates that there is a significant difference in attitudes towards physical education between the girls who opted physical education and who did not opt physical education. The 't' value is found to be 6.02, which is statistically significant at 0.01 level of confidence in favour of the girls who opted physical education as subject.

The finding is similar to the finding reported earlier about boys. It can be inferred that boys and girls who opted physical education as a subject of their study have more favourable attitude towards physical education as compared to those who did not opt physical education.

The result of mean difference between attitude scores of government and private school boys has been given in Table-10.

Table-10

Mean difference between the attitude of Government and Private School Boys towards physical education

Group	Mean	SD	Mean Difference	Standard error of mean	*t*	Remarks
Boys govt. $N = 150$	287.23	30.55	4.00	3.55	1.12	*t* was found to be insignificant
Boys pvt. $N = 150$	283.23	30.98				

$t_{0.05,\ 298} = 1.96$, and $t_{0.01,\ 298} = 2.59$

From the result presented in table-10 it is evident that there is no significant difference in attitude towards physical education between government and private school boys.

The mean scores of government and private school boys do not significantly differ as it could be found out from the above table. The mean of government schoolboys is 287.23 and private school boys are 283.23. The difference between the two is 4, which is almost negligible. However result indicate that students of both the institutions are favourably inclined towards physical education.

The result of mean difference between scores of girls of Government and private schools has been given in Table-11.

Table- 11

Mean Difference of attitude towards physical education between Girls of Government and Private schools

Group	Mean	SD	Mean Difference	Standard error of mean	*t*	Remarks
Girls govt. $N = 150$	290.99	32.37	8.54	3.49	2.44	*t* was found to be significant
Girls pvt. $N = 150$	282.45	28.03				

$t_{0.05,\ 298} = 1.96$, and $t_{0.01,\ 298} = 2.59$

The result presented in table above indicate that the girls studying in Government schools have obtained higher score (Mean = 290.99) on attitude scale as compared to the girls studying in private schools (Mean = 282.45). The difference in two means of attitude score was found to be statistically significant at 0.05 level. It may be possible that games and sports are better organised in government schools as compared to private ones due to which the students of Govt. schools hold more favourable attitude towards physical education. It may also be inferred that private school don't give enough importance to the sports, instead lay much stress on studies. As a result of which the students of private schools could not develop positive attitude towards physical education as compared to the students studying in Government schools.

The results obtained may be summarised as given below:

1. Boys showed significant positive relationship of attitude towards physical education with 600-yd run/walk, shuttle run, and standing broad jump, of motor fitness variables and also with academic anxiety and academic achievement.

2. The attitude of girls towards physical education was found having significant positive relationship with 600-yd run/walk, 50-yd dash, shuttle run and standing broad jump of motor fitness variables and also with academic anxiety and academic achievement.

3. The boys who opted physical education as an elective subject did not show any significant relationship of their attitude towards physical education with any of the motor fitness variables, academic anxiety or academic achievement.

4. The boys who had not opted physical education as an elective subject did not show significant relationship between their attitude towards physical education with any of the other variables except academic achievement.

5. The attitude towards physical education of girls who opted physical education as an elective subject was found significantly correlated with 600-yd run/walk, 50-yd dash and academic achievement.

6. The attitude towards physical education of girls who did not opt physical education as an elective subject significantly correlated with 600-yd run/walk, shuttle run over all motor fitness and academic achievement.

7. The mean difference of attitude scores towards physical education between boys and girls was found to be insignificant.

8. The attitude towards physical education of boys who opted physical education was found significantly better than the boys who did not opt physical education as a subject.

9. The attitude towards physical education of girls who opted physical education was found significantly better than their counterparts who did not opt physical education as subject.

10. No significant difference was observed in the attitude of boys towards physical education between the students studying in government and private schools.

11. The attitude towards physical education of girls studying in government schools was found significantly better than the girl students studying in private schools.

To the best of our knowledge no attempt has yet been made by researcher to study the differences in attitude towards physical education of students who opted and who did not opt physical education as well as to investigate the differences in attitude towards physical education of the students who were studying in government and private schools. Thus it is not possible to compare our finding with similar research done by investigators.

It has been reported that those who are involved in physical activity are more favourably inclined towards physical education Thomas (1996). We find that our findings are similar to the study conducted by Thomas (1996). Tucker (1999) in his study found positive relationship between scholastic ability and athletic participation. Beal (1999) reports that academic achievement of athletes was much better than non-athletes. Sing (1989) has shown that student with greater agility, endurance and strength showed higher academic achievement. Our results indicate that

attitude towards physical education is significantly related to academic achievement of boys as well as of girls. Our results endorse the findings of Tucker (1999), Beal (1999) and Singh (1989). Our finding that attitude towards physical education is significantly related to the academic achievement and motor fitness variable both for the boys and girls sample is similar to the findings of Boespeslug (1968) and Arnett (1968). Our findings are also similar to Buharmann (1972) research, which showed that athletic participation was more strongly linked with educational success among the boys.

It would not be out of context if we mention that students of Punjab are more involved in games and sports. Due to which the State has provided outstanding sports persons. Involvement of students in games and sports has also increased due to the establishment of the Departments of Physical Education in the state. It is also worth mentioning that the media have popularised the modes of exercises in their programmes, such as aerobic exercises, yoga and various forms of dances. Such programmes are also organised by various hotels and private clinics. I may be allowed to mention that since long Bhangra dance is popular in the state, in which boys and girls equally participate. Undoubtedly Bhangra is a vigorous form of exercise, which is regularly organised during various festivals, marriages and institutional functions. Probably all these factor are responsible for developing favourable attitude towards physical activities.

The government schools employee, physical education teachers who conduct regularly physical activity programmes. The private schools lay more emphasis on imparting education and pay less attention regarding physical activity. The school climate might have influenced the attitude of the students regarding their attitude towards physical

education. The similarity in attitudes of boys and girls towards physical education might be due to the above influence.

Our finding are significant in many ways in the sense that the students, by and large, seems to be interested in motor fitness activities as well as academic achievement. Better facilities and proper motivation may encourage the students to participate whole heatedly in games and sports activities. Also coaches and games teacher should be provided incentives to produce outstanding sports persons.

SUGGESTIONS

1. In the interest of sports private managed schools should do some efforts to develop attitude of girls students towards physical education.

2. The private schools who did not introduce physical education as an elective subject should also introduce physical education in their school so that attitude of students is developed towards physical education.

3. Such studies should be conducted for the university and college students.

4. It is also suggested that similar study may be conducted in other state of the country.

5. We have confined our study to motor fitness variables, academic anxiety and academic achievement. It is suggested that socio-economic factors should also be incorporated in future studies. Parental attitude towards participation in games and sports and social support may also be included in such studies.

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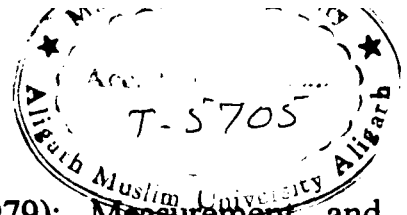

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Appendices

Appendix-I

UNIVERSITY GRANTS COMMISSION

Professor S.K.Khanna,
Ph.D. FIE
Secretary

Bahadur Shah Zafar Marg,
New Delhi- 110002.

D.O.No F. 14-3/85 (CP)

March 1985

12 4 APR 1985

Dear Vice-Chancellor,

The question of providing a Degree Course in Physical Education which may be different from Physical Education Courses offered in the Physical Education Colleges had been under the consideration of the Commission for some-time past. A Working Groupwas constituted to consider this question. While the Working Group was not in favour of introduction of Physical Education as one of the subjects at the undergraduate level, it agreed that there was a need for a degree course in Physical Education (including sports) in its wider concept which would be different from Physical Education Course in Physical Education Colleges. As recommended by the Working Group a committee was constituted to work-out the details of organising such a course. After a series of meetings, the committee prepared a final plan for organising a three year degree course in Physical Education, Health Education and Sports which is different from the Physical Education Course conducted by the Colleges of Physical Education. The report of the committee duly approved by the Working Group was considered by the Commission at its meeting held on the 16th February, 1985. The Commission desired that the recommendations of the Working Group constituted by it to work-out the details of the Degree Course in Physical Education including Sports may be circulated to the Universities. Accordingly a copy of report of the Committee as accepted by the Commission is enclosed.

The Report covers the objective, scope, duration and content of the course, eligibility for admission criteria, evaluation procedures, staffing pattern and qualifications for teachers, infrastructure facilities, equipment, reference books and opportunities for employment and further studies for the graduates of this course.

The main recommendations of the Committee are summarised as under:-

(1) The course may be of three-year duration and may be designated as Degree in Bachelor of Science (Physical Education, Health Education and Sports). This will be different from course conducted by colleges for Physical Education preparing teachers in Physical Education.

(2) The course provides facilities for students with an aptitude for sports and games to study this discipline scientifically and achieve a reasonable level of attainment in four sports/games or in two sports/games and one Vocation-Oriented course besides Athletics, Gymnastics and Yoga and excel in one sport/game of their choice.

(3) The course may be introduced in a phased manner in not more than one college of general education (Arts, Science, Commerce and Multi-disciplinary colleges) in a distinct on a highly selective basis, making use of the facilities in the SNIPES field-stations, already established by the NSNIS Patiala.

(4) Except in Foundation Courses, English/Hindi/Regional Languages, the weightage for theory and practicals should be 50:50.

(5) To begin with at least four teachers in various fields of physical education, health education and sports may be necessary to undertake instructions in theory or practicals, besides the teachers in English and Hindi/Regional Languages which may be otherwise available in the college. Number of teachers may be increased to at least 5 in second year and at least 6 in third year. Persons competent to teach vocation-oriented courses should be entrusted with this responsibility.

6) Not more than two vocation-oriented courses may be provided by a college. A college is required to provide facilities for compulsory programmes, viz. Track and Field, Gymnastics and Yoga, at least four games/sports from each of the Group II and III, besides two vocation-oriented courses.

(7) Graduates of this course should be eligible for employment in various services available to other graduates. They will also be suitable for employment in various sports institution/club or industrial centres and all other institutions which desire to have orientation in sports and games.

(8) The product of this course should be eligible for admission to the B.Ed., B.P. Ed., Two-Year MA (P.Ed.), M.Sc. (P.Ed.), M.P.Ed. [illegible], and postgraduate diplomas in health education, physiotherapy.

(9) Besides the minimum qualifications as prescribed by the UGC for the appointment of Lecturer in Physical Education in Universities and Colleges, the Committee recommend that it should be highly desirable if the candidate also has:

(a) One year degree diploma in Yoga/game/sport from a recognised institution.

(b) Universities/State level participation in Yoga/ game/ sports.

Persons competent to teach vocation-Oriented Courses should be entrusted with this responsibility.

I shall be grateful if the detailed syllabus and courses of study for the three-year degree course in Physical Education,

APPENDIX 2

EDGINTON ATTITUDE SCALE

DIRECTIONS

Attached you will find a list of statements about physical education. Feelings about these statements vary among people. There are no right or wrong answers. Please answer each statement according to your own feeling about physical education.

Please put your answers on the provided answer sheet. You are to tick/cross out the box on the answer sheet to indicate how strongly you agree or disagree with each statement. The numbers in the boxes on the answer sheet are to guide you. They stand for the following:

1.	Very Strongly Agree	2.	Strongly Agree.
3.	Agree	4.	Very Strongly Disagree
5.	Strongly Disagree	6.	Disagree

PLEASE BE SURE TO ANSWER EVERY STATEMENT

1. Physical education is mainly concerned with muscle building.
2. Physical education should be eliminated from the curriculum.
3. Physical education is too strenuous for the average student.
4. Knowledge of various sports learned in physical education helps students to become more understanding spectators.

5. Physical education should develop in students an understanding of the importance of exercise to health.

6. Respect for human personality should be one of the qualities sought in a physical education class.

7. Credit should not be given for physical education.

8. Physical education has little value and should be eliminated.

9. Skill learned in physical education is of value in social life.

10. Co-operation is not necessary in physical education activities.

11. Physical education is not as important as other academic classes.

12. Emotional expression can be brought under control through participation in game.

13. Physical education helps students to develop poise.

14. The main purpose of physical education is to cause fatigue in students.

15. Physical education should not be considered as a part of general education.

16. The intellectual processes are related to the physical processes of the body.

17. Physical education should be a required subject.

18. Physical education should introduce only activities that are useful during the teenage years.

19. Grade should not be given in physical in physical education.

20. A student should learn to respect his opponent in physical education.

21. Physical education helps student adapt to group situations.

22. Physical education does little in developing desirable standard of conduct.

23. Tolerance, obedience and respect for the rights of others are learned in physical education.

24. Physical education should be an elective subject after the ninth grade.

25. Exercise is of little importance in maintaining good health.

26. There is a scientific basis for physical education.

27. To participate in games is undignified.

28. Physical education once or twice a week is inadequate.

29. Written test should be given in physical education.

30. Physical education is mainly concerned with team games.

31. Physical education should be required in every grade.

32. Students have little opportunity in physical education to receive recognition.

33. Physical education classes provide opportunities to make friends.

34. Physical conditioning is an important part of physical education class.

35. No real learning takes place in a physical education class.

36. Physical education is harmful if an individual is physically weak.

37. Credit should be given for physical education.

38. Physical education had little to offer for the unskilled individual.

39. Varsity athletes should be excused from physical education classes.

40. The programme in physical education should be organised so there is progression in the learning of skills.

41. Callisthenics' should be eliminated from physical education.

42. Participants in physical education learn to co-operate as members of the group.

43. Physical education is important in the growth and development of students.

44. The physical education programme should include activities leading to sports appreciation.

45. Activities in physical education offer students opportunities to make quick decisions and responses.

46. Physical education contributes to physical development.

47. Physical education should be a relaxation period between academic classes.

48. The activities in physical education programme do little to develop physical fitness.

49. The programme in physical education is the same year after year.

50. Students get all the physical activity they need outside of school.

51. Student's a long walks would be a good substitute for physical education.

52. Learning the rules of activities is an important part of physical education.

53. The rules of sportsmanship should be practised in physical education.

54. Physical education is not an important phase of education.

55. There is a little carry-over value from physical education.

56. Physical education classes should not be free play periods.

57. Flexibility is important in physical education.

58. Some callisthenics should be included in physical education.

59. Physical education is needed for a complete education.

60. Little intelligence is required for physical education.

61. Physical education classes should provide challenging activities.

62. Physical education is a waste of time in school.

63. Individual sports learned in physical education can be useful in later life.

64. Physical education is mainly for the physically gifted.

65. Co-ordination can be developed in physical education.

66. Strength cannot be developed in physical education.

ANSWER SHEET

	VSA	SA	A	VSD	SD	D
1	( )	( )	( )	( )	( )	( )
2	( )	( )	( )	( )	( )	( )
3	( )	( )	( )	( )	( )	( )
4	( )	( )	( )	( )	( )	( )
5	( )	( )	( )	( )	( )	( )
6	( )	( )	( )	( )	( )	( )
7	( )	( )	( )	( )	( )	( )
8	( )	( )	( )	( )	( )	( )
9	( )	( )	( )	( )	( )	( )
10	( )	( )	( )	( )	( )	( )
11	( )	( )	( )	( )	( )	( )
12	( )	( )	( )	( )	( )	( )
13	( )	( )	( )	( )	( )	( )
14	( )	( )	( )	( )	( )	( )
15	( )	( )	( )	( )	( )	( )
16	( )	( )	( )	( )	( )	( )
17	( )	( )	( )	( )	( )	( )
18	( )	( )	( )	( )	( )	( )
19	( )	( )	( )	( )	( )	( )
20	( )	( )	( )	( )	( )	( )
21	( )	( )	( )	( )	( )	( )
22	( )	( )	( )	( )	( )	( )
23	( )	( )	( )	( )	( )	( )

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25	( )	( )	( )	( )	( )	( )
26	( )	( )	( )	( )	( )	( )
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49	( )	( )	( )	( )	( )	( )
50	( )	( )	( )	( )	( )	( )

51	( )	( )	( )	( )	( )	( )
52	( )	( )	( )	( )	( )	( )
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Appendix-3

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(HINDI)

Dr. A. K. SINGH (Patna)
Dr. (Miss) A. SEN GUPTA (Patna)

कृपया निम्न विवरण देवें :—

नाम— आयु—

कक्षा (वर्ग)— विद्यालय—

लिंग— तारीख—

निर्देश

इसके पीछे के पृष्ठ पर कुछ कथन दिए गए हैं जिनका सम्बन्ध आपकी आदतों तथा आपके व्यक्तित्व व गुणों से है। प्रत्येक कथन के सामने दो खाने बने हैं, जो कि उस कथन के सम्बन्ध में आपके 'हाँ' या 'नहीं' उत्तर को सूचित करते हैं। कथन को पढ़ने के बाद जो उत्तर आपके ऊपर लागू हो, उसके नीचे वाले खाने में सही का निशान (✓) लगा दें। यद्यपि समय की कोई सीमा नहीं है फिर भी आप काम को यथाशीघ्र समाप्त करने का प्रयास करें। आप निःसंकोच उत्तर दें; आपका उत्तर पूर्ण रूप से गुप्त रखा जावेगा।

Estd. : 1971 Phone : 65780

National

PSYCHOLOGICAL CORPORATION
4/230 KACHERI GHAT, AGRA - 282 004 (INDIA)

कथन	हाँ	नहीं
1. स्कूल के प्रधानाचार्य द्वारा बुलाये जाने पर मुझे बहुत घबराहट महसूस होती है।	☐	☐
2. परीक्षा का समय नजदीक आते ही मैं मानसिक तनाव (Mental tension) से ग्रस्त हो जाता हूँ।	☐	☐
3. अचानक कक्षा-अध्यापक (Class Teacher) द्वारा स्टाफ़-रूम में बुलाये जाने पर मुझे बहुत डर लगता है।	☐	☐
4. देर हो जाने पर भी मुझे कक्षा में जाने से कोई संकोच नहीं होता है।	☐	☐
5. गणित शिक्षक के आते ही मैं ऐसा महसूस करता हूं कि मुझे कुछ नहीं आता है और सब कुछ भूल गया हूँ।	☐	☐
6. अचानक अगर किसी कार्य वश भी स्कूल के कार्यालय में जाना पड़ा तो मुझे डर लगता है।	☐	☐
7. अगर मेरे माता-पिता के साथ शिक्षकों का वार्तालाप होता है तो वे मेरे बारे में क्या कह रहे होंगे, इसकी मुझे चिन्ता होती है।	☐	☐
8. मैं हमेशा अच्छे परीक्षाफल के लिए सोचता हूँ।	☐	☐
9. गृह-कार्य (Home work) नहीं करके जाने पर भी कक्षा में जाने से मुझे डर नहीं लगता है।	☐	☐
10. किसी भी विषय में निम्न प्राप्तांक (Low marks) आने पर मैं उसे दोस्तों एवं घर वालों को दिखाने में लज्जा का अनुभव करता हूँ।	☐	☐
11. कक्षा अध्यापक (Class Teacher) अगर खड़ा करके कोई प्रश्न पूछें तो मुझे डर लगने लगता है।	☐	☐
12. इंगलिश के शिक्षक द्वारा अचानक क्लास में कुछ पूछे जाने पर मुझे घबड़ाहट महसूस होती है।	☐	☐
13. अगर मुझे यह पता चलता है कि किसी छात्र या मेरे दोस्त को अनुशासित न होने के कारण बड़ी सजा मिलने वाली है तो मैं काफी तनावग्रस्त हो जाता हूँ।	☐	☐
14. परीक्षा के समय अक्सर मैं यह स्वप्न देखता हूँ कि प्रश्न-पत्र मिलने पर भी मुझे कुछ याद नहीं आ रहा है।	☐	☐
15. पढ़ाते समय यदि कक्षा अध्यापक मेरे सामने आकर खड़े हो जाते हैं तो मैं भी सचेत हो जाता हूँ।	☐	☐
16. प्रधानाचार्य से बात करने में मुझे कोई घबराहट नहीं होती है।	☐	☐
17. परीक्षा शुरू होने के समय से कुछ पूर्व अगर मैं स्कूल नहीं जा पाता हूँ तो मुझे चिन्ता होती है।	☐	☐
18. कक्षा में पहली बैन्च पर मैं कभी नहीं बैठता हूँ।	☐	☐
19. परीक्षा कब शुरू होगी इसकी उत्सुकता मुझे हमेशा बनी रहती है।	☐	☐
20. संस्कृत का अध्ययन मेरे लिए मानसिक तनाव का कारण बन जाता है क्योंकि मुझे संस्कृत का उच्चारण बहुत ही कठिन लगता है।	☐	☐